ABSTRACT OF THE DISCLOSURE

An online life science research environment and virtual community with a focus on design and analysis of biological experiments includes a life sciences laboratory system employing at least one networked computer system that defines a virtual research environment. Users access the system through a portal associated with the networked computer system(s). The virtual research environment has a data coupling mechanism by which the user designates a set of user-specified data for bioinformatics processing. A processor(s) associated with the networked computer system(s) performs bioinformatics services upon the user-specified data. In one embodiment, the data coupling mechanism enables transfer of the user-specified data to a memory space that is mediated or accessed by the processor performing the bioinformatics processing. Users may thus exploit bioinformatics processing resources that are not deployed on users' local computer environments, and to store and organize information relating to life sciences research in a secure, online workspace.